

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application. The following listing provides the amended claims with deleted material crossed out and new material underlined to show the changes made.

**Listing of Claims:**

1. (Currently Amended) ~~In a~~An envelope detector for determining whether the level of a differential input signal  $IDP - IDN$  is above a reference voltage  $V_{REF}$ , the envelope detector comprising:

(a) means for converting the differential input signal to a differential current  $IDP - IDN$  and the reference voltage to a reference current  $I_{REF}$ ;

(b) means for comparing the currents to determine if  $|IDP - IDN|$  is greater than  $I_{REF}$ ; and

(c) means for indicating a valid differential signal when  $|IDP - IDN|$  is greater than  $I_{REF}$ .

2. (Currently Amended) The envelope detector of Claim 1, wherein the means for determining if  $|IDP - IDN|$  is greater than  $I_{REF}$  includes a first comparator for comparing  $IDP - IDN$  with  $I_{REF}$  and a second comparator for comparing  $IDN - IDP$  with  $I_{REF}$ .

3. (Currently Amended) The envelope detector of Claim 2, wherein the means for indicating a valid differential signal includes an OR circuit coupled to the comparators for providing an output signal when  $IDP - IDN > I_{REF}$  or  $IDN - IDP > I_{REF}$ .

4. (Currently Amended) ~~In a~~ method of determining whether the level of a differential input signal  $DPIN - DNIN$  is above a reference voltage  $V_{REF}$ , the method comprising steps of:

(a) converting the differential input signal to a differential current  $IDP - IDN$ ;

(b) converting the reference voltage to a reference current  $I_{REF}$ ;

(c) comparing the currents to determine if  $|IDP - IDN|$  is greater than  $I_{REF}$ ; and

(d) ~~means for~~ indicating a valid differential signal when  $|IDP - IDN|$  is greater than  $I_{REF}$ .

5. (Currently Amended) The method of Claim 4, wherein the currents are compared by comparing  $IDP - IDN$  and  $IDN - IDP$  with  $I_{REF}$ , and the valid differential signal is indicated if either  $IDP - IDN$  or  $IDN - IDP$  is greater than  $I_{REF}$ .

6. (Currently Amended) ~~In an~~ envelope detector for determining whether the level of a differential input signal  $DPIN - DNIN$  is above a reference voltage  $V_{REF}$ , the differential input signal being cyclical with  $DPIN$  and  $DNIN$  each being greater than the other during alternate cycles and crossing over during a switching interval between the cycles, the envelope detector comprising:

(a) means for converting the differential input signal to a differential current  $IDP - IDN$  and the reference voltage to a reference current  $I_{REF}$ ;

(b) means for comparing the currents and providing an output signal indicative of a valid differential signal when  $|IDP - IDN|$  is greater than  $I_{REF}$ ; and

(c) means for maintaining the output signal during the switching interval following a cycle in which  $|IDP - IDN|$  is greater than  $I_{REF}$ .

5  
7. (Currently Amended) The envelope detector of Claim 6, wherein the means for comparing the currents includes a first comparator for comparing  $IDP - IDN$  with  $I_{REF}$  and a second comparator for comparing  $IDN - IDP$  with  $I_{REF}$ , and the means for providing the output  
10 signal includes an OR circuit coupled to the comparators for providing the output signal when  $IDP - IDN > I_{REF}$  or  $IDN - IDP > I_{REF}$ .

8. (Currently Amended) The envelope detector of Claim 7, wherein the means for maintaining the output signal comprises a Schmitt trigger responsive to the output signal from  
the OR circuit.

15 9. (Currently Amended) ~~In a method of~~ for determining whether the level of a differential input signal  $DPIN - DNIN$  is above a reference voltage  $V_{REF}$ , the differential input signal being cyclical with  $DPIN$  and  $DNIN$  each being greater than the other during alternate cycles and crossing over during a switching interval between the cycles, the method comprising steps of:

20 (a) converting the differential input signal to a differential current  $IDP - IDN$  and the reference voltage to a reference current  $I_{REF}$ ;

(b) comparing the differential current and the reference current;

(c) providing an output signal indicative of a valid differential signal when  $|IDP - IDN|$  is greater than  $I_{REF}$ ; and

(d) maintaining the output signal during the switching interval following a cycle in which  $|IDP - IDN|$  is greater than  $I_{REF}$ .

10. (Currently Amended) The method of claim 9, wherein  $IDP - IDN$  and  $IDN - IDP$  are compared with  $I_{REF}$ , and the output signal is provided when  $IDP - IDN > I_{REF}$  or  $IDN - IDP > I_{REF}$ .

11. (Currently Amended) The method of claim 9, wherein the output signal is passed through a Schmitt trigger having trigger levels set further apart than a change in the output signal during the switching interval.